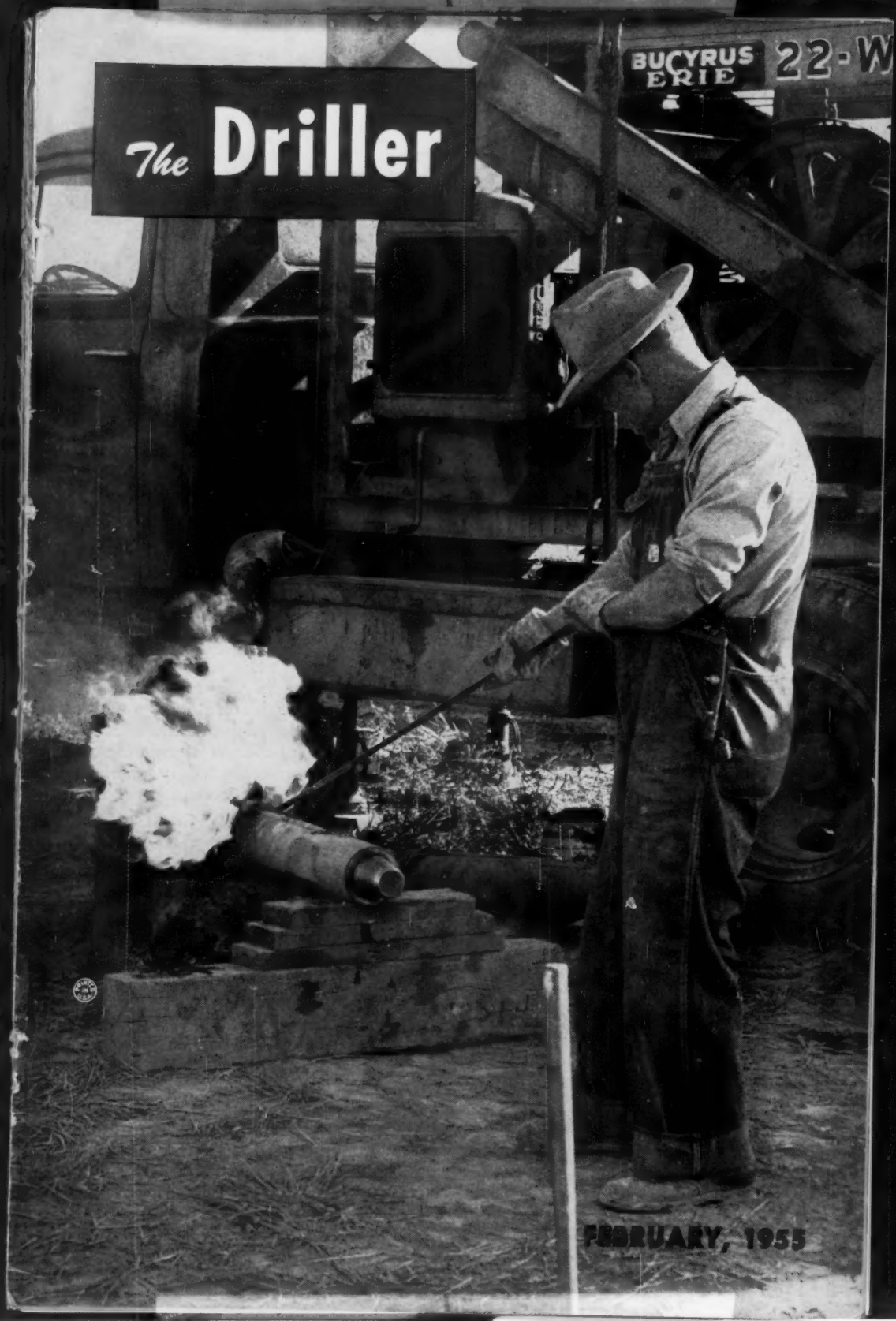
The Driller



FEBRUARY, 1955

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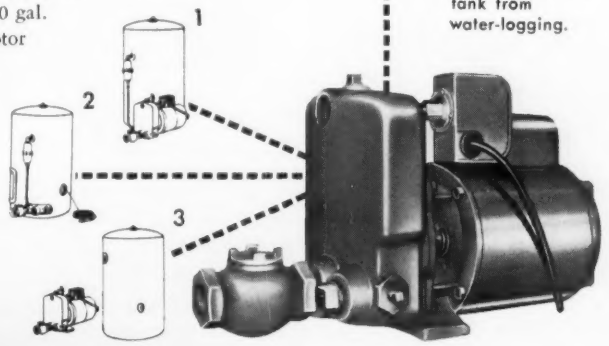

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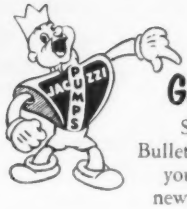

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SETTING THE STANDARD FOR SUBMERSIBLES FOR OVER 30 YEARS

The Driller

Vol. 29 CONTENTS No. 2

February 1955

On our cover . . . George Gregory, driller's helper, who works with Lee Turner, driller for the Youse Drilling Co., Baxter Springs, Kans. strokes up the field forge that heats a bit for dressing. The Youse story begins on page 12.

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Prospect holes, water wells, elevator shaft holes or any other well job, the Youse Drilling Co., Baxter Springs, Kan., will take them as they come in the Tri-State or any other area.

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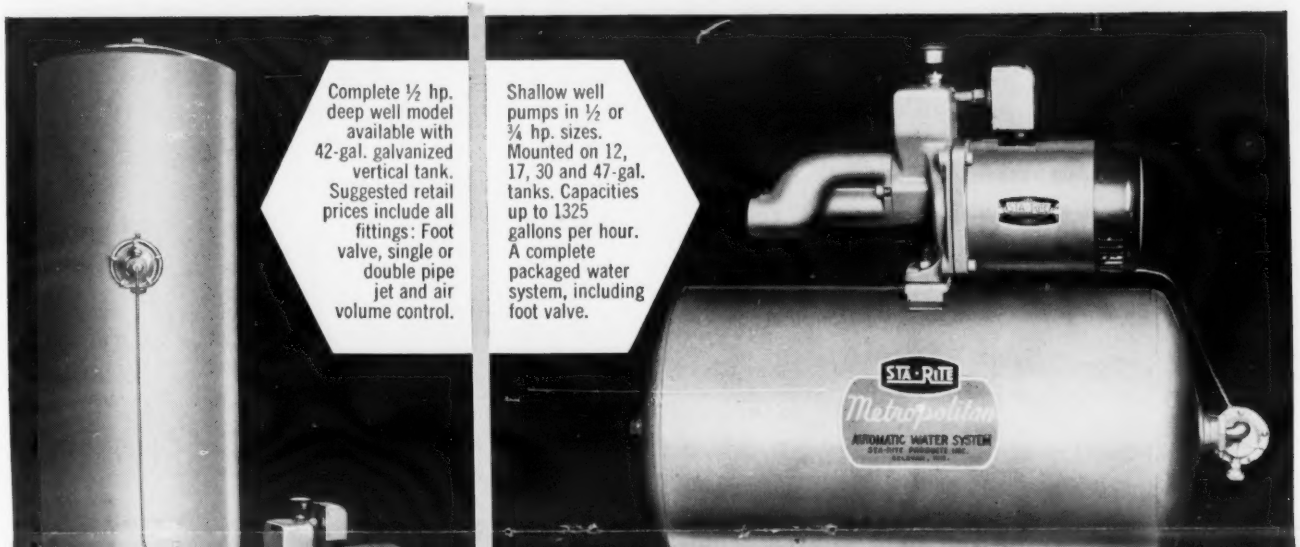
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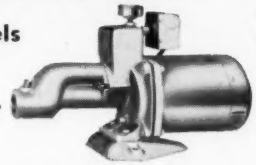

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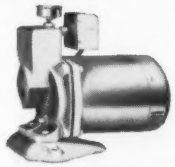

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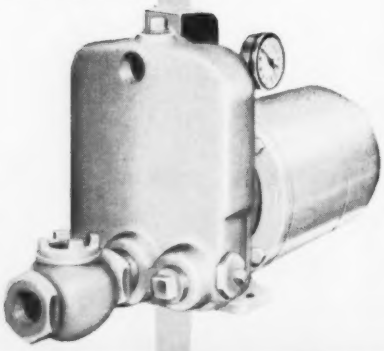

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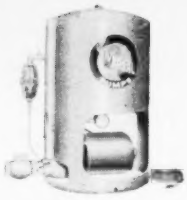
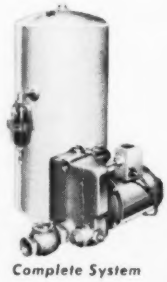


Uni-mat



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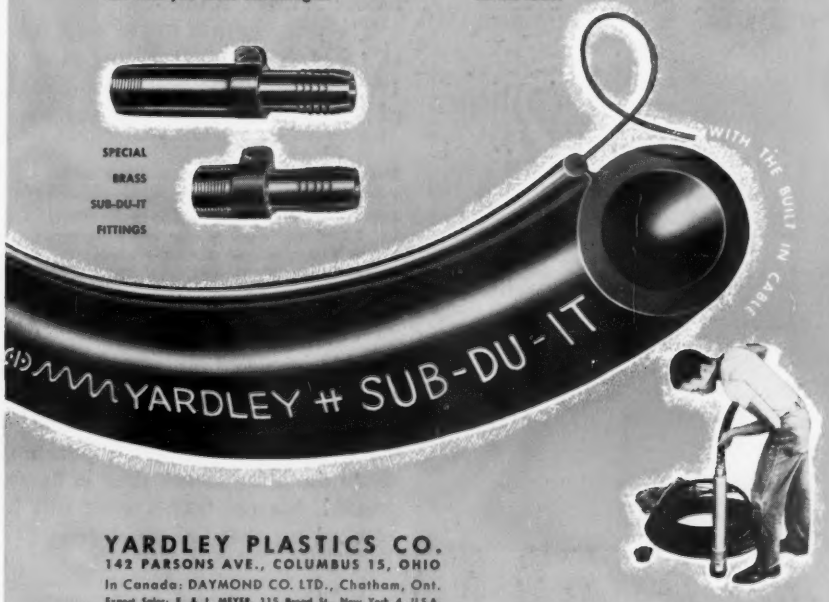
Find out at once how Sub-du-it can increase sales and profits. Write for Bulletin 211 for all the facts.



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Tri-State Area Drilled

For Lead Zinc Water

By L. H. Houck

The early morning air is filled with powder-fumed exhaust from underground blasting as the Youse Drilling Co. 22-W works on a prospect location in the Picher-Miami mining district.

FULL credit has never been given to the important part played by the churn drill in the development of the Southwest Missouri zinc and lead fields — a part the drill rig has played with ever increasing efficiency since the days of the coal burning boilers, steam engines and ancient wood rigs of the Gay 90's.

And one of the names identified with this great mining district from its very beginning whose drills are still pounding the limestone and chert is the Youse Drilling Co., now headed by C. E. and Loyd Youse, brothers in Baxter Springs, Kans.

The prospect drill rigs of their father, O. M. Youse, who passed away in 1916, dotted the bustling young fields of Carterville, Webb City and Prosperity before 1900. Mining companies quickly learned it was easier to drill a prospect hole and block out ore bodies than it was to sink a shaft. Geologists and mining engineers may be doing a better job, modern drills are punching down the holes in less time in harder ground, but ore bodies must still be blocked out ahead of the drifters.

Prospect holes, water wells, elevator shaft holes or any other well job, the Youse Drilling Co., Baxter Springs, Kan., will take them as they come in the Tri-State or any other area.

Neat piles of cuttings with tags to show various levels are arranged for the convenience of the staff geologist.

In the more than half a century that holes have been drilled in this district by Youse drillers, they have used every known make of drill rig. Some of the early day steam rigs were manufactured in the district. The company's present equipment has been narrowed down to two Bucyrus-Erie rigs, a 24-L mounted on a 10-wheel GMC truck, which was drilling a water well in Oklahoma when Loyd Youse was interviewed at his Baxter Springs home, and a 22-W on a 2-ton Ford V-8, which was drilling prospect holes near the north field shaft of the Weber mine near the Oklahoma-Kansas state line.

Both rigs are operated by experienced crews and keep busy the year round.

Prospect drilling is done on a contract basis and footage price and it takes 10 to 15 holes to block out an ore body from which a company geologist determines the trend of the ore body as well as the width and length.

On the job at the Weber mine the hole was 6¼-inches in diameter and depths ranged from 365 to 500 feet with most of the drilling in the east edge of the Miami fault which stretches from Waco, Mo., to Miami, Okla.

Cuttings from various levels are placed in neat piles and labeled for the company geologist. The driller watches for signs of ore, which in this locality will be zinc, since there is very little lead.

When "color" is found, 2½-ft. samples are taken in the baler and dumped in a special tub, called a "cutting" tub.

The contents of the tub are then dumped into a new contraption called the "splitter" which has been developed since World War II to reduce the quantity of the sample without deranging the ratios of pay dirt to dead dirt.

The splitter is essentially a rack with 1-in. wide slots and chutes with a tub on each side. There are 12 slots and chutes with six discharging into one tub and six into the other tub.

Head Driller Lee Turner looks for "color" in the pan. The "splitter" was developed to reduce the size of the 2½-foot sample without changing its ratio. Twelve slots "split" the sample into two tubs. If the sample shows as much as 1% pay dirt it is cut again.

which reduces the sample by one half. If the sample runs over 1% zinc or lead it is cut once again by running it through the splitter the second time. It takes 4% pay dirt for an economically sound venture.

The sample which is then reduced to a small amount is placed in a depression in the ground from which it is gathered by the geologist and taken to the assayer's office for complete breakdown.

The driller, Lee Turner, who has been with Youse for more than 10 years, was using forge-sharpened bits on the job, getting about 10 feet to each sharpening in the chert and sometimes as much as 40 in the soft limestone.

Since most of this ground has been pumped to dewater for 30 years or more, many of the prospect holes are dry and water has to be poured into the hole. Casing is set down to solid rock which requires from 100 to 125 feet.

On some of the hardest formations the bits are hard-faced by electric welding, the type of hard-facing welding electrodes used is determined by the formation.

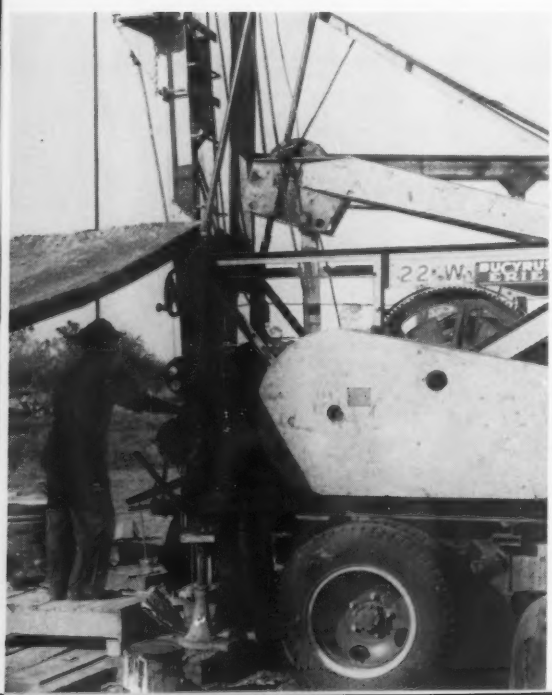
Most of the hard-facing is done in town shops while the forged sharpening is done on the job.

The limestone formations are, of course, no problem, since they run true to form and are quite easily drilled as compared to the flint and chert. The flint is an impure variety of quartz running gray to nearly black in color which breaks with a conchoidal fracture and sharp edge. The chert is but little if any softer. Both are very hard requiring plenty of punch from the drill. Scientifically it is blood kin to the flint and cryptocrystalline quartz or fibrous chalcedony and running pale gray to darker.

Below this formation in this district there rises a little known granite dome which can only be cut with diamond drills. The so-called sheet ground in which most of the zinc ore has been found throughout the entire Tri-State District begins around Carterville, Mo., at about 165 feet where it was mined in the early days. This body slopes the 100 or more miles southwest to Miami, Okla., where it has been mined at about 500 feet. The granite dome ranges below that being encountered most places at about 1,000 feet. The Miami fault extends from Waco and the slip is enough to throw most precise calculations into disorder.

Youse bits have penetrated to the Roubideaux at 1,025 feet and as much as 2,000 feet in some instances. All of this formation data is important to

Head Driller Lee Turner is shown at the cable which swings 32-ft. of tools. All drilling is done with jars.



Driller Lee Turner and George Gregory, helper, are shown swinging out a hot bit and poising above the anvil.

Turner and Gregory "lay to" with the sledge on the hot bit which has just come from the forge in the background.

the driller. Fractures and cavities are numerous and each driller develops his own method of keeping a straight hole through a cavern or when a crevice leads the bit off at a tangent.

Mr. Youse said that down the years they had tried everything from cast-iron and tin cans to tree limbs but now use but one method — dynamite. He said this method has proved cheapest and fastest for them.

If the hole is dry as so many of the prospect holes are, the dynamite is tied to a stick so that it will be held at the proper level from the bottom and double primers are used. This blows out the hole and usually when the bit is dropped back to bottom drilling will be straight. If not, another blast is made up. On wet holes electric detonators are used.

While the business of the Youse Drilling Co. is primarily mining and drilling for other mining companies, they handle many unusual jobs with their drill rigs.

A tornado ripped the top from a 40-ft. silo on a nearby farm. To replace the top would have required days of work, loads of lumber and a crew of men, just to erect the scaffold so the top could be replaced. Youse sent his 22-W with its two-man crew. It rolled at passenger car speeds to the farm, raised its derrick in minutes and a platform was laid from the top of the silo to the derrick. The top was finished in less than a day and a half and the rigid derrick proved to be ideal for the job.

Another interesting job was in connection with a cast-iron sewer pipe job in Pittsburg, Kan., using 20-in. pipe.

Pittsburg, 30 miles north, is in the coal region, mostly strip pit mining but some of the old mines were shaft and drift. This particular sewer line hit an old drift at 20 feet and the sewer line elevation was 19 feet. The 22-W was used to drill holes through from the top at 8-ft. intervals along the drift. A

(Continued on page 38)

Accelerated Depreciation Helps You Modernize Now

Articles appearing on these pages that cover taxes, depreciation and other government controlled business problems are published for their general interest and to remind readers of the various aspects concerned with a business. These articles are not intended to replace competent authority which readers are urged to consult for specific problems.

The new tax law encourages replacement of old equipment with new. Methods of allowing faster depreciation and equipment write-off were revised. Here is a comparison of methods.

By Harold J. Ashe

PROGRESSIVE drilling contractors recognize that periodic replacement of old equipment is a necessary and continuing process. It is imperative both for adequate profits and for business survival.

Nevertheless there is an all too human tendency to put off the day for acquiring vitally needed replacements, repairing equipment long after this is economically unwise. Now a new factor has been injected into the perennial question of repairing or replacing and one which is heavily weighted in favor of the latter. This new factor is accelerated depreciation provided for in the 1954 Revenue Code.

Many drilling contractors who have been worrying with the question of whether to buy new drilling equipment will find an affirmative answer once they appreciate the implications of accelerated depreciation. The provision in the new Revenue Code permitting the use of an accelerated depreciation formula is deliberately calculated to encourage modernization through the

Comparison of Depreciation Methods

Beginning of	Straight-Line Method		Declining-Balance Method		
	Annual Depreciation	Cumulative Recovery	Balance Unrecovered (*)	Annual Depreciation (*)	Cumulative Recovery (*)
1st year	$	$	$10,000	$	$ .....
2nd year	1,000	1,000	8,000	2,000	2,000
3rd year	1,000	2,000	6,400	1,600	3,600
4th year	1,000	3,000	5,120	1,280	4,880
5th year	1,000	4,000	4,096	1,024	5,904
6th year	1,000	5,000	3,277	819 (start straight-line method)	6,723
7th year	1,000	6,000	2,621	656	7,379
8th year	1,000	7,000	1,965	656	8,035
9th year	1,000	8,000	1,310	655	8,690
10th year	1,000	9,000	655	655	9,345
11th year	1,000	10,000	None	655	10,000

(*) Rounded to dollars

Tax-Savings Compared

Assuming $10,000 Outlay and 10-year Life, by tax-brackets

	20%		22%		26%		30%	
	S-L	D-B (*)	S-L	D-B (*)	S-L	D-B (*)	S-L	D-B (*)
1st year	$200	$400	$220	$440	$260	$520	$300	$600
2nd year	200	320	220	352	260	416	300	480
3rd year	200	256	220	281	260	333	300	384
4th year	200	205	220	226	260	266	300	307
5th year	200	164	220	180	260	213	300	246
6th year	200	131	220	144	260	171	300	197
7th year	200	131	220	144	260	171	300	197
8th year	200	131	220	144	260	170	300	197
9th year	200	131	220	144	260	170	300	196
10th year	200	131	220	145	260	170	300	196

S-L: Straight-Line
D-B: Declining-Balance in combination with straight-line method in last years. (*) Rounded to even dollars

purchase of new machinery, equipment and other capital items having a determinable useful life. These inducements are two-fold in nature: (1) Faster recovery of capital outlays; and (2) greater tax savings in the first years of asset lives.

By adopting the declining-balance method of accelerating depreciation, two-thirds of the capital outlay is recovered in the first half of an asset's life. The conventional straight-line method results in recovery of only 50% of the outlay in the same time. The first year, the recovery by the declining-balance method is double that allowable by the straight-line method.

Moreover, the greater tax-saving benefit, available through accelerated depreciation, follows closely on the heels of acquisition of capital items being so depreciated. This benefit comes at a time when, because of the capital outlay, it is most welcome.

To appreciate how a greater immediate tax benefit is conferred on a drilling contractor acquiring new depreciable assets consider this hypothetical case. He buys $10,000 of new equipment having a 10-year useful life. He is in the 30% tax bracket. If he uses the straight-line method, annual depreciation is $1,000 every year for 10 years — for a tax saving of $300 a year so long as he stays in the 30% bracket. On the other hand, if he uses the declining-balance method, his first year's depreciation will be $2,000 with a tax saving of $600; the next year depreciation will be $1,600 and the tax saving will be $480; the third year, $1,280 depreciation and tax saving $384, and so forth. The tax reduction for the first three years is $1,464 as against $900 by conventional methods.

An accelerated depreciation method may be used for tax purposes only if the depreciable new property has been acquired after 1953, provided the taxpayer (a) is the first user, (b) his use started after 1953, and (c) the asset has a useful life of three years or more.

This forecloses the use of an accelerated depreciation method on new assets even though acquired just before year-end 1953, and even though the first year's depreciation is being taken in the 1954 tax return. It also bars accelerating depreciation on assets acquired

(Continued on page 38)

News of the month

From the State Capitals

An impartial analysis of legislative and regulative trends. Prepared by Bethune Jones.

New developments in the field of water supply and conservation, as reported from state capitals and municipalities throughout the country, include the following:

Arkansas

Proposed new state water rights legislation, aimed at establishing priorities for present users of surface water and providing machinery for new applicants to acquire similar rights, was made public by its sponsor.

The bill would create a seven-member State Water Control Commission to be named by the governor to staggered terms from a list submitted by a nominating committee designated in the measure. The commission would be enpowered to draft regulations and hire necessary administrative personnel.

Fees of $3 for the filing of an application and $5 for the posting of a water rights permit would be charged. The owner of land on which there is a spring would be absolute owner of the water as needed for the land.

California

State Engineer A. D. Edmonston recommended that the state legislature make $50 million annually available for water development.

He suggested to the State Water Resources Board that a fund similar to the state highway construction fund, which is financed principally from the gasoline tax, should be established for the development of water resources.

Although explaining he had no specific type of water tax in mind, Edmonston said he believes some provision should be made for raising the necessary revenue specifically earmarked for water construction projects.

Also suggesting that a state water projects construction agency should be established, he said the present State Water Project Authority, with slight modifications, could be made such an agency.

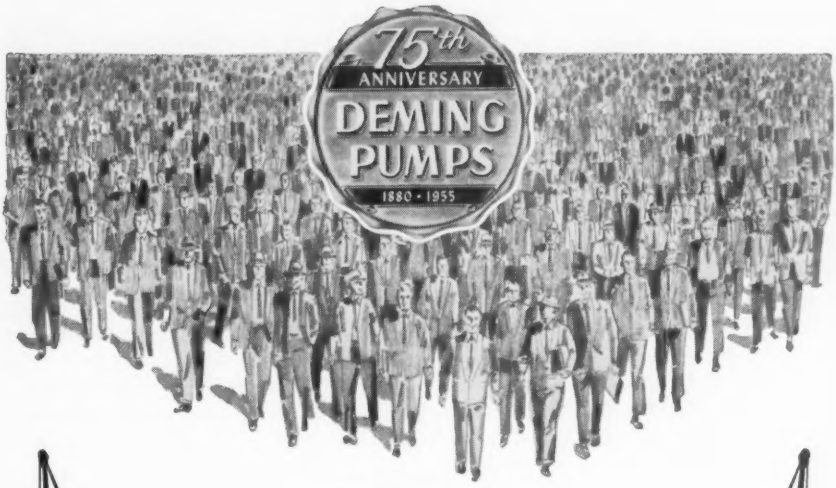
Georgia

Warning against hasty legislation as an answer to the state water problems, Benjamin M. Hall, Jr., a hydraulic engineer with the firm of Wiedeman and Singleton, recently suggested that the state legislature be asked for a $250,000 appropriation for a year's study of the problem before the enactment of any new legislation relating to water and its uses.

Illinois

Creation of a new agency to handle water supply, flood control, water transportation and sewage disposal problems in the Chicago metropolitan area was recommended by a committee on metropolitan water and sanitation for submission to the Illinois legislature.

In submitting the plan to Governor Stratton, Anthony A. Olis, committee chairman and president of the Chicago



A TRIBUTE TO ALL WELL DRILLERS

The year 1955 is a noteworthy milestone in the history of The Deming Company. It marks 75 years of steady growth since the first Deming Pump was built in 1880. Today, the complete line of Deming Pumps and Water Systems includes more than 10,000 types, sizes and capacities . . . probably the most extensive variety of pumps available from any single manufacturer.

Over the years, countless thousands of Deming Pumps and Water Systems have been recommended and installed by experienced Well Drillers. Their specialized knowledge and skills have contributed immeasurably to the successful performance of Deming Pumps.

To all Well Drillers everywhere we extend our sincere appreciation for the vital contributions you have made to the progress of the entire pump industry. And to the many Well Drillers who have installed and serviced our products over the years, we express our deep gratitude.

THE DEMING COMPANY
512 BROADWAY • SALEM, OHIO

DEMING PUMPS

THE WELL DRILLERS' LINE

Sanitary District, emphasized it should be a cooperative project of local governments, with no effort to compel participation.

"Some of the communities face a shortage of water supply for domestic use," Olis said. "Many unincorporated areas lack enough water to supply potential industries. Several of the communities are without sewage disposal facilities and many others have minimum systems.

The committee, which was named early in 1954 by Governor Stratton, made a thorough study of engineering, financial and legal problems involved in water and sanitation problems of the area.

Without making any immediate comment on a proposal for state aid, the governor said the recommendations would be submitted to the Illinois legislature as a major part of his biennial message.

Maryland

Bills scheduled for submission to the Maryland legislature include a measure which would authorize the city of Baltimore to issue $45 million in water bonds for tapping the Susquehanna River.

Massachusetts

Legislative proposals backed by the Massachusetts Farm Bureau include a proposal calling for a study of the rights to surface and subsurface water.

Michigan

An engineering committee studying the water problems of the city of Grand Rapids recommended that the municipality launch a $6,250,000 water supply program.

Headed by Robert L. Davis, retired civil engineer, the committee proposed that the city build a second water filtration plant and additions to the existing distribution system. The committee also recommended that Grand Rapids "solve its own water problem" without joining the efforts of suburban communities to finance a pipeline to Lake Michigan.

Oklahoma

A bill proposing the creation of a State Water Authority, empowered to issue self-liquidating revenue bonds to finance agricultural, municipal and industrial water supplies, was approved by the executive committee of the State Legislative Council for submission to the Oklahoma legislature.

South Carolina

A joint state legislative water policy committee revealed it would recommend to the 1955 State legislature the enactment of legislation to place the use of surface water for "beneficial purposes" on a priority basis, replacing the long-established riparian right doctrine of water use in the state.

The measure backed by the committee is similar to a proposal which failed of enactment at the 1954 state legislative session.

Washington

Seattle Water Superintendent Roy W. Morse has estimated that a $48 million, 17-year expansion of the city water department, requiring an undetermined rate increase, will be necessary to keep up with Seattle's growth.

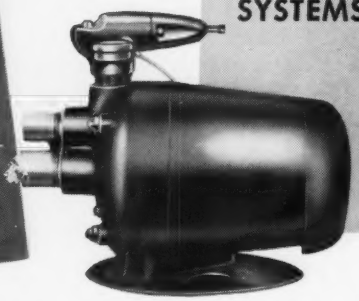
He declared, in addressing a Seattle civic group, that the proposed long-range program would require issuance of at least $29,800,000 in revenue bonds under a financing program

MORE MODELS . . .
MORE SIZES . . .
MORE SALES . . .
MORE PROFITS!

WITH *Perfection*

THE COMPLETE LINE OF WATER SYSTEMS

A PUMP FOR EVERY DOMESTIC PURPOSE



You can increase sales volume *now* and build *future* business too, by handling the Perfection complete line of water systems. Being able to supply any need builds your reputation as "water system headquarters" and gives you a big advantage over "short line" competitors.

The Perfection line is one of the largest offered by any manufacturer . . . complete water systems for a wide range of well sizes and depths; shallow and deep well jets, multi-stage jets and submersibles; sump, vane, gear, air conditioning, side suction and centrifugal pumps. Perfection also supplies a full line of water softeners.

Each and every model is backed by the advanced engineering, research and long experience in pump design which gives Perfection Pumps higher efficiency and longer life.

Perfection SALES CORPORATION

A subsidiary of Perfection Mfg. Corporation

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Perfection Sales Corporation
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I want to know more about Perfection Pumps

- ☐ Send information about the complete line
- ☐ I would like to talk to your representative

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COMPANY_____

ADDRESS_____

CITY_____ STATE_____

Adolph Schmoller

Adolph Schmoller, Bucyrus-Erie sales representative for drill tools and parts, died Nov. 25, 1954 at the age of 58.

Mr. Schmoller was well known to many drillers in the area around Wisconsin, Illinois and Minnesota with whom he dealt in connection with tools and parts needs. He was with the company approximately 39 years.

He is survived by his wife, Meta; one son, Navy Lt. James R. Schmoller, his mother, Mrs. Otto Schmoller and by five sisters, Mrs. W. J. Foran, Mrs. P. F. Rossbach of Beachwood Village, Ohio, Mrs. W. P. Schmitter, Mrs. J. H. Medland of Hillboro, Ore., and Mrs. J. A. Bader of Cleveland Heights, Ohio.

Clifford Ehmke

Clifford Ehmke, Silver Creek, N. Y., died Saturday, July 10, 1954 at the age of 54.

At the age of 18 Ehmke started life in the drilling field. In 1925 he became a Tool Dresser. In 1928 he purchased his first drilling rig powered by steam which was the beginning of the "Ehmke Well Drillers."

He was a member of the National Water Well Drillers Assoc., Inc.; The Empire Water Well Drillers Assoc.; The Masonic Lodge of Silver Creek; and the Consistory of Jamestown.

He is survived by his wife and seven children: Robert, Richard, Roger, Gertrude, William and Mrs. Harry Jewell of Silver Creek and Mrs. Richard Coates of Ames, Iowa.

which he said should be started during 1955. The Seattle water department at present is virtually debt free.

Wyoming

State Natural Resource Board announced it would support a legislative proposal to permit it to invest money in water development projects from the state's permanent funds.

Another measure considered by the board for submission to the legislature would require the registration of all water well drillers in the state. Another proposal calls for a stronger groundwater regulatory law.

Still another Wyoming legislative proposal would authorize the establishment of water conservancy districts.

Michigan's Water Use Exceeds Abundant Supply

Even in a "Water Wonderland" there can be a shortage of water. In fact, Michigan may some day have to hunt another license plate slogan if its residents don't recognize the importance of water conservation.

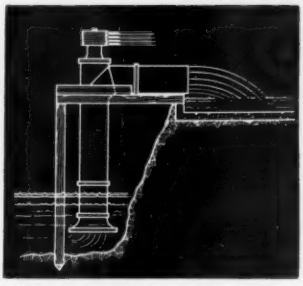
"There is probably just as much water in Michigan now as there was in the days of Genesis," Frank Suggitt, head of the department of soil and water conservation at Michigan State College, told the Kalamazoo City Farmer's Club last year.

"The supply of water is fixed. You don't make any more of it."

(Continued on page 26)

Sell and install our Lo-Lift irrigation pumps

1,500 TO 30,000 G.P.M.



SEND FOR CATALOG AND PRICES

If you are interested in the profitable irrigation pump business, you will need a good "packaged" pump manufacturing connection. Better send for our complete catalog and information sheets on LO-LIFT PUMPS. They are good sellers and carry a very attractive profit.

irrigation is big and profitable business

Well drillers are logical irrigation equipment suppliers. They know water and how to handle it. If you are not cashing in on the big irrigation equipment market, you are missing a real opportunity of picking up much extra profit. LO-LIFT PUMPS are the nicest "packaged" jobs you can possibly buy. They handle big volumes of water at extra low cost — from rivers, lakes, bayous, canals, reservoirs etc. — or any place where the lift is up to 20 feet or so. Sizes are from 1,500 GPM to 30,000 GPM. We supply them for V or flat belt, angle gear or electric motor drives — and your crew can install one complete in an hour or so. Better send for complete information now. Write, wire or phone. No obligation.

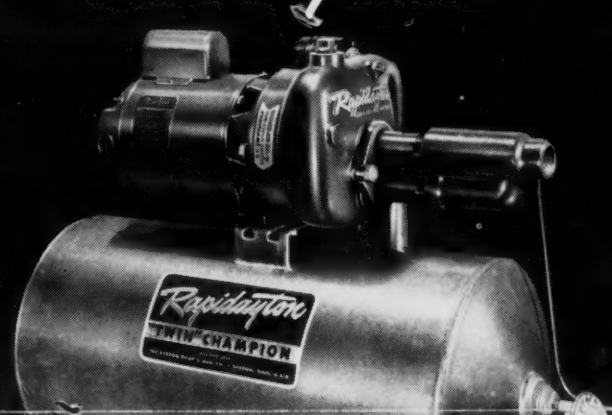
THE LO-LIFT PUMP COMPANY

420 Cherry St., Welsh, Louisiana

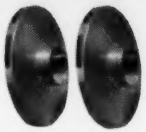
LO-LIFT PUMPS

"TWIN"

Rapidaytor Champion



Only "package" Jet Water System that pumps from 0 to 140 foot depths!



Two Impellers!
Pumps *Full Capacity* at 40 lbs. Pressure!

One-impeller pumps lose 30% to 80% of their pumping capacity at 40 lbs. pressure . . . but not the new "TWIN". Second impeller plus "Quad-Volute" design *holds* full capacity at 40 lbs. to meet "modern living" requirements.

Model 50CT-CT40S-T13

You owe yourself a good close look at one of these revolutionary Rapidayton "TWIN" Champions soon. There's a new high in simplicity and efficiency of design, a new low in price. What does it mean to you?

It pumps water from greater depths (down to 140 feet) and pushes it farther and higher (extra-high pressures)—it'll deliver full capacity at 40 lbs. pressure (not the 30% to 80% loss of one-impeller pumps)—it's easier and faster to install—it's available in a full group of *convertible* models for deep or shallow wells—and you'll have the lowest prices (with full trade discount, of course).

These are just highlights—your Rapidayton Wholesaler has all the details. Call him!

Rapidayton

Jet, Submersible and Reciprocating Water Pumps & Systems
"Hot-'n-Cold" Water Systems • Cellar Drainers • Water Softeners

THE DAYTON PUMP & MANUFACTURING CO.
Dayton 1, Ohio

capacity at 40 lbs. to meet "modern living" requirements.

Complete ½ H.P. "Package" Water System—only

$149.50 retail (f.o.b. factory)

for pumping depths down to 110 feet.

Only $129.50 retail for pump, and ejector, without tank.
Only $164.50 retail for ¾ H.P. "Package" system for pumping depths down to 140 feet.

True Convertibility! Faster Installations!

Same pump works on deep *or* shallow well by changing position of ejector—no extra pump parts to buy. "Quick-Connect" flange for faster installations eliminates threading, clamps, adapters, unions and slip couplings. Plastic or steel pipe *slides* into pump for fast, easy hook-ups.

News . . .

(Continued from page 22)

But consumption isn't, according to Suggitt. It's one product that doesn't require a sales campaign to push its use.

"The housewife, sportsman, industrialist—everyone would probably tell you there is too little water for the uses we wish to make of it today."

Which is a mighty odd situation for a state that calls itself a "Water Wonderland."

"A super-abundance of water impeded the development of Michigan. One-third of the state's land surface was originally too poorly drained to farm. Overland transportation was once impossible."

"Michigan benefited from that abundance of water. Our large cities were built up by industries that are dependent on water—the paper industry in Kalamazoo, furniture in Grand Rapids," Suggitt goes on.

"He keeps insisting that we're drilling in the wrong place."

Now Michigan could have a water problem in the future.

Some townships in the Grand Rapids area are already considering a pipeline to Lake Michigan to provide a source of water.

"People near urban areas who have only drilled 20 to 30 feet for water in the past will no doubt have to go 70 to 90 feet in the future."

The water table in areas around large cities is dropping.

Suggitt attributes any water scarcity problems in Michigan and those of much greater magnitude in the parched Southwest to six factors:

1. Variation from one part of the country to another.
2. Runoff, transpiration of plants, and evaporation.
3. Human beings changing water locations, hastening the cycle that eventually takes water back to the sea.
4. Humans changing composition of water by filling it with sewage and silt.
5. Bigger population, and heavier concentration.
6. Greater per capita consumption.

"Humans have accelerated the movement of water to the sea through continuous cultivation of land allowing water to run off, removing forests, and in some cases, through excessive drainage," Suggitt points out.

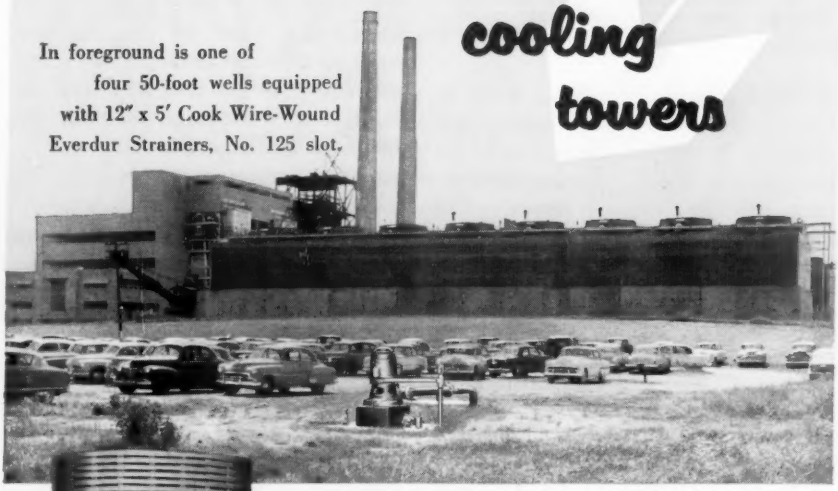
Then the American is mighty extravagant in his use of water. It takes from 100 to 130 gallons per day to sustain him.

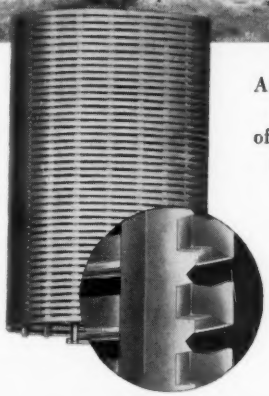
"That's about 1,500 tons a year. He only uses 18 tons of all other materials like food, lumber, metal, clothing, etc."

"It has been estimated that between 1950 and 1970, industrial demand alone for water will increase 170%.

thirsty giants, these cooling towers

In foreground is one of four 50-foot wells equipped with 12" x 5' Cook Wire-Wound Everdur Strainers, No. 125 slot.





And *Cook Well Strainers* provide the dependable, unobstructed flow necessary to supply the water requirements of the Oklahoma Gas & Electric Company's cooling units at the Mustang Plant, southwest of Oklahoma City. Wells were constructed by Earl R. Kelley, Oklahoma City, and the Delta Engineering Co. supplied the well strainers. Power plant has two cooling towers which consume fresh well water at the rate of 1500 gpm.

One reason why Cook Well Strainers are chosen for important installations like this is that Cook Strainers have an exclusive V-shaped self-cleaning slot which eliminates clogging. Wire-wound or brass tube type are available in all slot sizes from .006 inches to .25 inches, fabricated from Red Brass, American Everdur Bronze, Armco Iron or Stainless Steel.

For fast service (eight to 24-hour delivery often possible) telephone Cincinnati MU 1800, or write for complete specifications.

World's Leading Name In Well Strainers

COOK WELL STRAINER CO.
3264 BEEKMAN, CINCINNATI 23, OHIO

The domestic use will increase tremendously through one factor alone —air conditioning. Continued metropolitan expansion will also require more water, and agricultural use through intensive irrigation, is increasing."

New Mexico Increases Irrigation Drilling in Drought Areas

The number of irrigation wells in Curry County, N. Mex., increased from about 90 in 1953 to about 150 in the early part of 1954, according to a recent geological survey report. The statement was based on a report prepared by the Geological Survey in cooperation with the State Engineer of New Mexico.

The current drought has focused attention upon the development of ground-water resources for irrigation use, with the result that in March 1954 new irrigation wells were being installed at a rate of about 20 per month. By the end of the year a total of about 250 wells are expected to be ready for service in the 1955 season, and will be capable of irrigating about 40,000 acres.

These irrigation wells are being completed in the Ogallala formation, the deposits that extend from the land surface down to the underlying red beds of Triassic age. Information obtained in the reconnaissance study shows that the Ogallala formation ranges in thickness from about 350 to 400 feet southeast of Clovis to about 500 feet north-northwest of Clovis. To the west, in the vicinity of Melrose, the formation is approximately 125 feet thick.

The Ogallala formation is composed mainly of fine sand. Gravel occurs in places, most commonly near the base of the formation. Drillers' logs show that the basal gravel ranges in thickness from about 5 to 120 feet. The most productive wells generally are those completed in the gravel.

The measured yields of nine irrigation wells range from 400 to 950 gpm and larger yields have been reported. Specific capacities of the irrigation wells are reported to range between 10 and 200 gpm per foot of drawdown. In some areas the yields have not been adequate for irrigation.

Ground water occurs under water-table conditions and is moving generally southeastward under a gradient of 10 to 15 feet per mile. The depth to water below the land surface is generally least southeast of Clovis, where it is about 130 feet. It increases northwestward, being about 230 feet near Clovis and about 300 feet 6 miles northwest of Clovis. In the vicinity of Melrose, where the red beds are within 125 feet of the land surface, the water table in the Ogallala formation is 80 feet below the surface.

The saturated thickness of the Ogallala formation is generally greatest southeast of Clovis, where it is nearly 200 feet.

Pump Unit Provides Both Hot And Cold Water

A single compact electrical unit that will provide both hot and cold running water under pressure has been developed by the Dayton Pump and Mfg. Co., according to a company report.

The first system of its kind ever built, it will be known as the Rapidayton Hot'n Cold jet water system.

(Continued on page 34)

Greatest Name in Cable Tools

Acme

TRUSTWORTHY SINCE 1900

Acme's 3-Cutters

Ream Larger Hole — Faster

When Water Well Drillers strike hard formations under which there is quicksand or gravel, they find Acme's Underreamer a most efficient tool for enlarging hole size to permit pipe to be lowered through hard rock.

It's exclusive-feature 3-Cutter Reamer is far superior to obsolete 2-cutter types. Unique construction assures solid backing while reaming; cone seats firmly around cutters, inside. Holds better cutting gauge—longer. Cone keeps out dirt. See illustrations: Collapsed for "free and easy" in-and-out of hole. Expanded for reaming operation. No jarring into casing; no broken cutters.

Fig. 143

Body of one SOLID forging — no sub to unscrew. Hard surfaced cutting edges. Fashioned of premium-specification steel and correctly heat-treated — to make the world's finest reaming tool.

Write for free copy 36-page (1953 edition) Catalog and tool-use Manual — designed and packed with especially valuable information for Water Well Drillers.

To-be-Sure —Always: Order Acme's

You get more of EVERYTHING needed in Acme Tools—100 are shown in new Catalog.

Acme Fishing Tool Co.

PARKERSBURG, W. VA.

ACME DRILLING & FISHING TOOLS Since 1900

EXPORT OFFICE

Stardrill-Keystone Co., Beaver Falls, Pa.

the driller and the LAW

Articles appearing under this heading are published for their general interest, and to remind readers that it is not safe to overlook the legal aspects of a water well drilling business. The articles are not intended to take the place of specific advice of counsel. For such advice, readers are urged to consult a local attorney.

It Pays to Get All Contracts in Writing

WHAT is the unwisest thing that a well contractor can do in his every-day dealings with patrons?

Some people may answer, "To fail to make sure that the patron is solvent, or that a lien will be enforceable against the land." Others may answer, "To assume that a man can contract for a well on land owned by his wife without taking the proper legal steps."

It would probably be more important to "always insist upon a written contract which specifies just what the contractor undertakes to do to be entitled to payment."

Here is the latest court decision that illustrates the point:

From the decision of the Texas Court of Civil Appeals, Amarillo, in the case of Green Machinery Co. v. Green, 266 S.W. 2d 279, it is shown that the company sued for $2,045, as a balance due under an oral contract to drill an irrigation well and for casing and equipment delivered under the contract. Instead of collecting, the company was required to refund $2,142 that had been paid by defendant landowner. (The court permitted the owner to retain the casing and equipment valued at $1,780 as security for that much of the refund and directed the company to pay the defendant landowner the difference between the value of the property and the $2,142 paid.)

Whether the owner may be honestly mistaken in his recollection as to the terms of the agreement, or acts fraudulently, the result is the same: It does not pay to rely on an oral contract when a written one can be secured.

— Arthur L. H. Street

MODIFY Contracts in Writing Too

It is doubtful whether any well contractor who reads this article will ever be satisfied with anything less than a signed document covering modification of a contract to produce a well — showing just what modified work is to be performed and just what price is to be paid for it. Failure to make clear understanding as to price to be paid resulted in a lawsuit decided by the Kansas Supreme Court. (Mathis v. Public School District No. 103, Johnson County, 264 Pac. 2d 1082). The contractor won the suit but probably at an expense that made a big hole in the contract proceeds.

Drilling contractor Mathis and the School District seem to have used perfectly good judgment in making an original contract for a well that was to be 10 feet in diameter and 35 feet

deep at a price of $3,260. The written contract, with specifications and drawings, seemingly covered everything that well prepared documents of that nature should contain. Provision was made for adjusting payment if any changes were made in the well, by agreement before doing the changed work.

When the well was about 19 feet deep the school district officials orally agreed with the contractor that the dimensions be changed so that the well would be 12-ft. 4-in. in diameter instead of 10 feet, and 20 feet deep instead of 35. Nothing was said about any change in price; the provisions of the written contract about changes being ignored. But in a conversation between the contractor and the officials it was mentioned that there would be a balance of $1,278 due the contractor — the same amount that would be payable had the well been completed according to the dimensions originally agreed upon. So, the Supreme Court decided that because the parties did not agree upon a new price but by word and act indicated that the original price should apply to the changed job, that was the basis on which the contractor was entitled to collect.

Court May Ignore Contract Price

But care must be used not to misconstrue the effect of this decision. Except for the fact that the Court sensed that the parties virtually agreed that the old price should apply, it is more than probable that the Court would have ignored the contract price and decided that the contractor was entitled to reasonable pay for the work actually done. In that case, however, if the contract contained unit

(Continued on page 40)

Remember how hot and dry it was last summer? That's when many ranchers and farmers were wishing for a dependable JENSEN JACK to pump all the water needed for farms and herds.

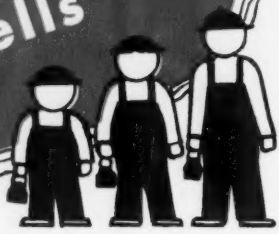
Well, sir, you can do these folks a big favor by reminding them that summer's not far off . . . and they can get a JENSEN JACK now and be ready for the dry spell ahead.

JENSEN JACKS cost little to buy and operate . . . easy to install and counterbalance . . . and mighty dependable. Write the JENSEN Folks for more details.

JENSEN JACKS

JENSEN BROTHERS MFG. CO., INC.
1016 Fourteenth Street
Coffeyville, Kansas

All-Round Money-Makers On All Types of Wells



Whether you drill the small 4-in. wells or handle heavier jobs requiring the use of up to 2,750 pounds of tools, Bucyrus-Erie builds *the drill* to meet your needs and make money for you. Look over the brief specifications given here. Then write for an illustrated bulletin giving complete information on the machine that fits your work.

20-W

Depth Capacity — 500 feet.

The ideal machine for the ordinary water well job. Will handle 1,200 lbs. of tools. Designed for solid cable tool drilling but also adaptable for jetting work.

Frame — steel; length, 8′7″; width, 3′10½″; height, 5′9″

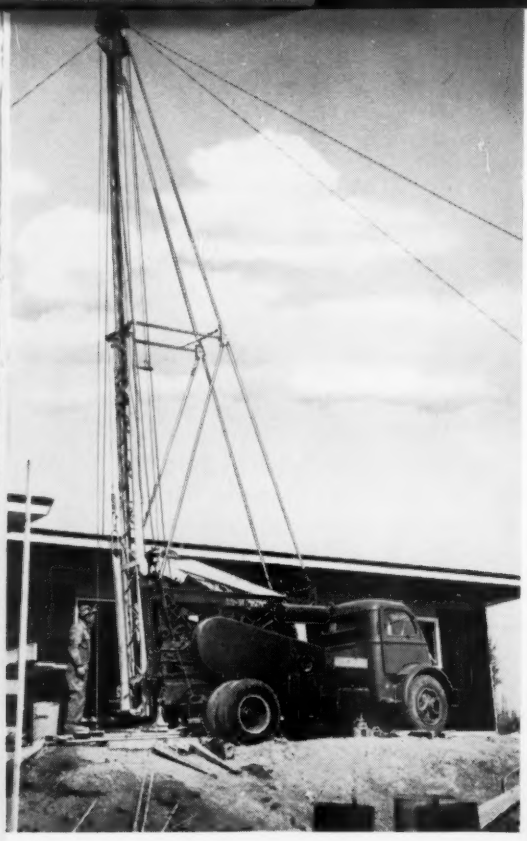
Derrick — 36′ two-piece telescoping.

Power — 4-cyl. gas engine. 17 net BHP @ 1440 RPM full load governed speed.

Weight — Truck-mounted, 5900 lbs.
Semi-Trailer mounted, 7000 lbs.

NOW Prompt Delivery

FIRST with the



60-L

Depth Capacity — 1,500 feet.

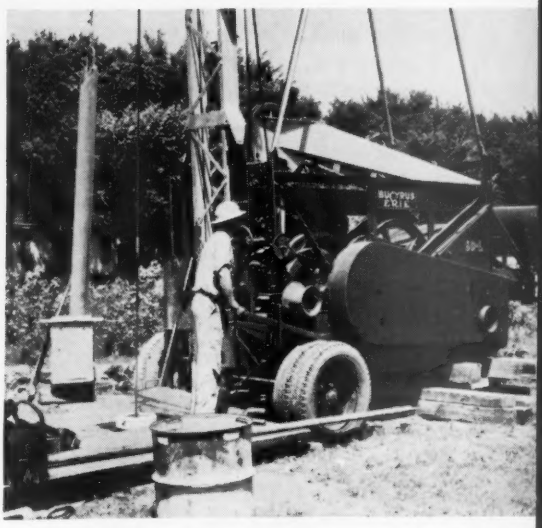
Here's the rig that makes you practically "ready for anything" in the water well drilling field. Has ample capacity for swinging heavy tool strings, yet is easy to move around and set up. Handles up to 2,750 lbs. of tools.

Frame — steel; length, 11′7½″; width, 5′2¼″; height, 6′11″.

Derrick — 48′ two-piece telescoping.

Power — 6-cyl. gas engine. 51.8 net BHP @ 1500 RPM full load governed speed.

Weight — semi-trailer mounted, 14,625 lbs.



22-W

Depth Capacity — 1,000 feet.

The medium-size "strong man". This powerful machine will handle up to 1,800 lbs. of tools efficiently.

Frame — steel; length, 10′5″; width, 4′7″; height 5′10″.

Derrick — 40′ two-piece telescoping.

Power — 6-cyl. gas engine. 36 net BHP @ 1590 RPM full load governed speed.

Weight — Truck-mounted, 8400 lbs.
Semi-Trailer mounted, 9650 lbs.

BUCYRUS ERIE

SOUTH MILWAUKEE, WIS.

10W54C

On All Models

FINEST in water well drills

News . . .

(Continued from page 28)

The unit consists of a ⅓ hp motor, 4-gal. pressure tank for cold water, and a 12-gal. hot water heater with adjustable thermostat.

Designed for a wide variety of uses, the system is available in shallow well jet models and convertible jet models and will pump water from depths as great as 70 feet. It is recommended for installations including small homes, resort cottages, filling stations and trailers as well as certain farm installations.

Special design reduces mixing of hot and cold water as pump refills heater. The thermostat is adjustable from 120° to 180° F.

The compact unit is 42 inches high, 18 inches wide and 22 inches deep. For under-the-sink or other installations where space is at a premium, the pump and pressure tank can be mounted beside the heating tank rather than on it.

The system has the Quick-Connect flange which permits either steel or plastic pipe to be used merely by sliding it into the pump.

Well Supplies Hot Water to Small Town in Belgium

The deepest hole ever drilled in Belgium may soon solve the municipal heating problem in the small town of Turnhout.

Salt water, gushing at a temperature of 176° from a hole drilled in the center of the town, has provided the answer to the burgomaster's dreams of a free source of heating.

Drilling of the hole, 7,200 feet deep, began two years ago when Burgomaster M. H. Bauweraerts was struck by the enormous cost of heating some of the municipal buildings and the town's swimming pool.

Bauweraerts, a chemist by trade but also an amateur geologist, decided to put his hobby to the use of the community. After studying the substrata, he estimated that a layer of carboniferous limestone between six thousand and seven thousand feet should contain hot water.

This idea was borne out by the opinion of several other experts and the burgomaster decided to drill. Some waste land behind the town hall was chosen as the site and boring began.

Strike Near-Boiling Water

Water at 95° was discovered at a depth of 2,580 feet. The burgomaster decided to continue his experiment although the two million francs ($40,040) allotted by the municipal authorities was nearly exhausted.

The National Coal Institute came to the rescue and financed the rest of the drilling. After reaching 6,900 feet, the drill suddenly plunged more than four feet into the earth without meeting any resistance.

Immediately near-boiling water began to spout up the hole to within 220 feet of the top. It did not reach the surface because of the great quantity of salt it contained.

A pump was installed to draw the water up and it began to flow at a steady rate. Its temperature in the soil was estimated to be about 194 degrees but it lost some heat coming up the bore hole.

The density of salt contained in the water — about three times as high as in ordinary sea water — will prevent it from being piped direct into radiators of the swimming pool.

But a closed circuit system, in which the hot water would heat ordinary water, is planned.

It would heat the swimming pool, the town movie theater and lecture hall and the town hall. This novel method would save the town about $9,800 a year and the cost of drilling would be repaid in four years.

Meanwhile, drilling is continuing to a depth of 9,900 feet and Bauweraerts believes that a supply of steam may be struck.

Clay Will Purify Water Chemist Reports

Water contaminated in an atomic attack can be made drinkable again within a day except in unusual weather conditions, a chemist reported last year.

William J. Lacy, assigned to the Oak Ridge, Tenn. National Laboratory, said a common clay known as montmorillionite and found in most places and all climates can be used effectively in cleansing radioactive particles from water.

He said that ordinary chemicals now used for purifying water would also be effective in clearing contaminated public water supplies if used in large enough amounts. Clay, however, is faster and doesn't have to be stockpiled.

He estimated that radioactive particles cling to montmorillionite clay and its use can remove up to 99% of most fission products. This would bring the water within the range of human tolerance, Lacy said.

He said that more than a day would be required for decontamination if there were heavy winds, rains or snowfall.

DRILL WITH SPINKS

FOR HIGHER CAPACITY WELLS

SPECIAL MUDS MINED AND PROCESSED FOR WATER WELL DRILLING!

- **SPINKS Gleason**—easy-mixing mud, washes out quickly, easily. Minimum penetration! Makes heavy mud — 9.5-lb. to 10-lb. range — stops cave-ins! Excellent lubrication properties! Removes cuttings quickly, thoroughly! Durably sacked in water-repellent asphalt lined bags! 50-lb. size for easy handling . . . less chance of loss!
- **SPINK-Gel** — high-yielding, finest quality Wyoming bentonite. Low water loss! Exceptional lubricating qualities!
- **SPINK-O** — medium weight mud. Combines outstanding qualities of Gleason and Spink-Gel.

Distributorships now open in several choice territories! WRITE, WIRE or CALL Rich Carothers. Telephone 1502, Paris, Tenn.

H. C. SPINKS CLAY COMPANY, INC.

Mines and General Offices
Paris, Tennessee

Spinks

BITS *from the wit sharpener*

Said the speaker at the convention on the morning after the big evening party, "I actually feel like one of you. I don't know which one, but I know he ought to be upstairs in bed!"

Two old gentlemen were sitting comfortably in their easy chairs at the club enjoying an after-dinner cigar.

Said one to the other:

"Every time I come here my wife thinks I'm out chasing women. Gad—I wish she was right!"

Her car stalled at the corner, and the traffic light kept changing — red, yellow, green, red, yellow, green.

The policeman stepped over to the car and asked in a hurt voice: "What's the matter, lady, ain't we got any colors you like?"

"Have you heard the one about the two holes in the ground? —"Well! Well!"

Two little boys, out fishing, passed a nudist camp with a high, board fence around it. One kid, spying a knot hole, went over and looked through.

"What's in there?" asked the other kid.

"It's full of people," was the answer.

"Men or women?" asked his companion.

"I can't tell," said the peeper. "They ain't wearing any clothes."

Just to be polite, the clerk in the infant's wear department asked a browsing customer: "Are you expecting?"

The woman wryly replied: "No, I'm not expecting, I'm sure!"

The asylum attendant rushed over to the head physician.

"Doctor, a man wants to know if we have lost any male inmates."

"Why?" asked the medical man.

"Someone ran away with his wife!"

"Don't tell me your husband is divorcing you for only a slight misunderstanding?"

"Yes, I understood him to say he would be out of town for a week."

A somewhat drunk fellow was haled into court and asked for an explanation of his condition.

"Bad company," he replied, "I had a quart of whisky and my three buddies didn't drink."

SAVES Time-Labor Remnants

Thousands now in use . . .

PLASTEX Measure Marked PIPE DISPENSEREEL

STOCK—CUT—DISPLAY the BIG 600′ Coil

SAVES TIME—Provides faster service . . . makes it possible to cut more pipe much quicker and easier than working awkwardly from a cumbersome coil on floor or shelf.

SAVES LABOR — Ends coil handling — keeps it orderly for display, storage and instant use. One man can unroll and cut any amount to length in a "jiffy" because PLASTEX is MEASURE MARKED every 10 feet.

ELIMINATES REMNANTS Holds big jumbo coil from which more pipe can be cut without short remnants often left when cutting smaller coils.

NOW IS THE TIME TO CHANGE to the modern, profitable, easy way of stocking, displaying and cutting PLASTEX MEASURE MARKED PIPE. Contact your wholesaler or send coupon for details at once.

TAKES UP SMALL SPACE Requires only 30″x 54″ floor space.

HOLDS 600′ COIL of PLASTEX ¾″—1″—1¼″ size pipe.

THE PLASTEX COMPANY
Columbus 3, Ohio

Yes I want to know more about the new PLASTEX DISPENSEREEL and how I can own one.

Name .....

Firm .....

Address .....

City ..... State .....

PLASTEX SINCE 1939

THE PLASTEX CO.
402 Mt. Vernon Ave., Columbus 3, O.

Tri-State Area . . .

(Continued from page 15)

round aluminum form was placed in the hole and concrete piers poured for the sewer line. Forms were left in place. This operation saved hundreds of dollars over any other method considered for getting the line through this section.

Many of the deep water wells in the Tri-State District, were drilled by the Youse organization, such as the 1,385-ft. well for the Twin Hills Golf Club, Joplin. Another chore on which the 24-L is used, is for holes for the plungers of elevators, such as those used in two and three story buildings which use a hydraulic cylinder similar to the car lift at service stations.

Another use for drilling which has come about with the improved mechanization of the entire mining industry, is the dewatering well. In the early days cross-head pumps were placed in the ground. Air lines and steam lines cluttered the sides of the shaft from which the dirt was hoisted and long uninsulated pipes were wasteful of steam.

Steam has passed out in the mining district and mills and operations above ground are now electric powered. Dewatering pumps are now placed on top of the ground, a dewatering well is drilled along side the service shaft, and the intake line is dropped down to the bottom of the hole.

Present operations of the Youse Drilling Co., are concentrated in Missouri, Kansas and Oklahoma but the Youse firm has operated in many other states. It drilled in the lead mines, oldest in the country, around Austinville, Va., and once had a contract for blast holes for the Carbide Company near Ivanhoe, Va., where they drilled 6¼-in. holes in limestone for two rounds of blasts per year.

Now the brothers keep their fingers on their mining business and direct the operations of their two drill rigs from their headquarters in Baxter Springs, Kan.

"Portability and quick-set-up facilities are among the most important requirements in a modern drill rig," Mr. Youse said, "in addition to ability to hit hard in a deep hole. In a few hours the rig can be on a location and spudded in," he said, "and that's important."

Modernize Now . . .

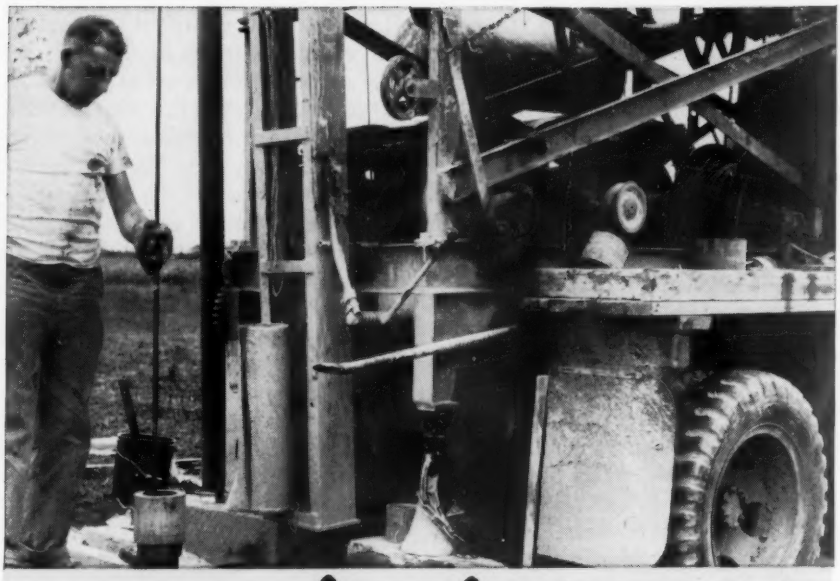
(Continued from page 17)

second-hand or in used condition, however briefly used by the prior owner.

A driller may use either one of two methods for accelerating depreciation. These are: (1) the declining-balance method; (2) the sum-of-the-years-digits.

Probably the former will be preferred by most drillers because it is relatively simple. As a starting point, the normal useful life is used, as in computing straight-line depreciation. However, the declining-balance method involves taking twice the charge allowed for the first year, by the straight-line method. Thereafter, this double rate is applied to the then unrecovered balance.

Thus, if certain equipment has a 10-year life, 10% a year is taken every year on the straight-line basis. Using the declining-balance method, 20% of the cost is taken the first year. In subsequent years, 20% of the remaining unrecovered cost is taken. Each successive year's depreciation charge is reduced. Continuing with the 10-year life for illustrative purposes, starting with the fifth year deprecia-



Here's a *long lasting* line!

● It's Tiger Brand Mor-Spring Drilling Line—specially engineered for cable tool water well drilling. It has good shock resistance to stand up under repeated heavy impacts. It wears well even when you're drilling through rock and sand.

These properties all help to make Tiger Brand Mor-Spring Line durable and long lasting. And the longer your line lasts, the *less it costs* per foot of hole.

Drillers have reduced costs as much as 50% with Mor-Spring Line . . . have drilled as much as 24,000 feet of hole with *just one Mor-Spring Line.* For service like that on your rigs, ask specifically for Tiger Brand Mor-Spring Drilling Line.

USS AMERICAN TIGER BRAND MOR-SPRING DRILLING LINES

USS

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UNITED STATES STEEL EXPORT COMPANY, NEW YORK

UNITED STATES STEEL

tion charges each year are less than by the straight-line method.

However, those using accelerated depreciation may switch back to the straight-line method at that point where an advantage no longer accrues through use of an accelerated method. At this point, the straight-line method, however, applies only to the unrecovered balance evenly divided into the remaining years. At the end of 10 years a drilling contractor makes a complete recovery just as he will in using the straight-line method from the outset. However, he will have had the possible advantage, tax-wise, of more rapid recovery in the first few years.

Briefly, here's how the sum-of-the-years-digits method works. First, the useful life is determined. Then the years are added to get the denominator. If, for example, the life is 10 years the denominator is found by adding 1, 2, 3 and so forth through 10 to get 55. As 10 years is the useful life, 10 is the starting numerator. Each year the numerator is reduced by one. Thus, the second year's numerator is 9, the third year's is 8 and so on. In this example, the first year's depreciation will be 10/55ths of cost. The second year's depreciation will be 9/55ths of cost.

If a driller modernizes and replaces his aging equipment and decides to sell out within several years, employing an accelerated depreciation formula will give him a distinct advantage, tax-wise, provided he has earnings subject to income tax. This is because, within a short period of ownership, he gets the maximum advantage of accelerated depreciation charges.

GENUINE COOK WELL SUPPLIES

REG. U.S. PAT OFF.

Cup Leathers — Well Seals
Working Barrels — Wood Rods
Sand Buckets — Well Tools
Fire Hydrants

Repairs for old-style Cook Pumps

Write Us Now!

MONARCH WELL SUPPLIES

LAWRENCEBURG, INDIANA

Contracts in Writing . . .

(Continued from page 31)

price, the Court probably would have used them so far as fair to do so in fixing the amount to be allowed.

There are decisions of courts that have been rendered in the building construction industry, to the effect that where an owner makes radical changes in plans while work is under construction, the original contract no longer applies, so far as price is concerned, unless the contract contains clauses that permit computation of additions to, or deductions from, the original contract price.

But the point to emphasize is the importance of having all modifying agreements in writing and specifically worded as to the nature of changes in work and price to be paid before continuing with the contract as modified.

— Arthur L. H. Street

BARGAIN *counter*

All advertising in this section is payable in advance. Enclose your check or money order with copy. Rate: 60c per line. Minimum charge $2.40. No discounts; no commissions. Count your own copy to avoid delay. The average line contains 28 characters (20 characters if all capital letters are used). Count spaces and punctuation as one character each. Allow 10 characters for box number if blind advertisement is desired. Closing date — 10th of preceding month. Example — January issue closes December 10th. Be sure to address separate inquires to each advertiser by using the correct box numbers. Mail Box inquires care of THE DRILLER, South Milwaukee, Wis.

DRILLS FOR SALE

Bucyrus-Erie 22-W mounted on 1950 Dodge, two ton truck; good condition; price: $5000 with tools and truck, $4000 without truck. Lee Bates, 612 James St., Rome, New York, Phone: 5991.

Rotary Failing 1500 on International 172, A-1 shape, 3 years old, 1000′ bottleneck Failing drill stem and dual wheel rod trailer; heavy duty unit with 2″ flow lines throughout, has been drilling to 1500′, many extras as elevators, break-out table etc. Phone: H. Brett, 25468 Calgary, Alberta, Can.

Practically new 60-L type E. B. Bucyrus-Erie spudder, serial #109682 with standard machine equipment, casing tackle strut and tool crane with trolley; can equip with tools to meet purchasers requirements; priced right for quick sale. Charles S. Wise, 1016 N. Harrison Ave., Kirkwood, Mo. Phone 2326.

21-W Bucyrus-Erie equipped with 35′ power derrick hoist, slack line holder, cat walks, Waukesha engine (with starter, clutch and is propane equipped) mounted on a very good 1947 c.o.e. Dodge; ready to go, with 4″ tools $2750. J. B. Ortman & Sons, Route 1, Kokomo, Ind., phone 2-3427.

DRILLS FOR SALE

Bucyrus-Erie 22-W 1952, 40′ telescopic derrick, casing reel, spooling device, 600′ ⅝″ cable and sand line; steel cat walks both sides machine, mounted on 1½ ton Ford truck in good condition; drill looks and runs like new. $4975. M. R. Long, Poplar, Wisconsin.

Keystone 50 mounted on 1941 Mack truck; 9.50-20 tires; 500 ft. ¾″ drill line, 500 ft. ⅜″ sand line; tools include 2¼ x 3¼ rope socket, 18 ft. stem, screw jacks and setup eq. machine slightly used; priced to sell at $6000 or see and make offer. J. Foster, Jr., 135 Sheridan Ave., Paterson, N.J. Phone: AR 4-4196.

#71 Star machine, new, fully equipped, mounted on 2-ton International truck with 600′ ⅝″ cable, 600′ ⅜″ sand line and 20′ bar; will sell at good price. Ordean H. Torgerson, 1412 15th Ave. No., Minneapolis 11, Minn., phone: JU 4973.

National Geophysical 1000′ rotary, with or without tools. 240 Speed Star, with tools. D. E. Imlah, Box 358, Forsyth, Montana.

21-W Bucyrus-Erie drill, mounted on 1947 International truck with two speed rear axle; will sell with or without tools and truck; drill located in Eastern New Jersey. Box 580.

#40 Cyclone 1951 model with power derrick hoist and tool guide; 400′ ⅝″ drill cable and ⅜″ sand line; mounted on 1948 Ford truck two speed rear axle all in very good condition. John Stoepfel, Route 4, Ottawa, Ohio, phone: Kalida 6-5.

24-L Bucyrus-Erie, semi-mounted, catheads, casing reel, excellent condition, with lines and tools. Max Toliver, Orleans, Indiana, phone: 232Y.

#10 Ideco good condition, mounted on 1947 Ford truck; 33′ telescoping derrick with power hoist; 500′ ⅝″ drill line and 500′ sand line both good; machine and motor recently overhauled; good string of 6″ tools and wrenches; $2500 without tools, $3000 with tools. W. J. Dillon, 637 W Street, Bedford, Indiana.

DRILLS FOR SALE

20-W Bucyrus-Erie drill with 32′ one piece derrick, spooling device; mounted on Chevrolet truck; complete with 500′ drill cable, 400′ sand line and 6″ tools with 2x3-7API joints. Badger Well Drilling Co., 6014 Medford Ave., Milw., Wis., Phone: HOpkins 6-0927.

33-W mounted on a 1941 four ton GMC truck, 36′ telescopic derrick; Red Seal Continental power plant; both in good running order; with or without tools. John McKenna, Dublin, N.H., phone: 205.

21-W Bucyrus-Erie, mounted on 40 International, lines with rig, no tools, $1900. Wayne Hayes, 535 Coburg Rd., Eugene, Oregon.

71 Speed Star two years old mounted on 1952 Chev. 1½ ton truck good condition; drill cable, sand line, some tools and tool house for $6000; ½ down, balance terms, reason for selling age and health. Morrison & Morrison, Box 260, Harrington, Wash., phone: 871.

#42 Cyclone mounted on '47 Studebaker truck with good motor and two speed rear axle with fair tires; machine has tool guide, cathead, spooling device, slack line holder, gear reduction on bull reel for pulling casing, etc., casing reel, starter and generator; 600′ new ⅝″ drill line, 600′ ⅜″ new sand line; cat walks and tool box built on; has been used about six weeks, drilled ten 4″ wells; must sell because too big for our work; price: $5800. Douglas Holzem, 1975 Prairie Ave., Beloit, Wis., phone: 2-3922.

Truck mounted rotary rigs, Mayhew, Failing, Sullivan 2000′ capacity, 315 compressor. Fred Butler, Box 481, Pueblo, Colorado.

33-W drilling machine mounted on two ton Diamond T truck, both in A-1 condition; one extra rebuilt LeRoi motor never used; machine has telescoping derrick; priced reasonable. Wayne Lampman, Sr., Blue Mounds, Wis., Phone: Mt. Horeb 2R9.

50 Keystone, 1953 model, mounted on 1947 6KB International, with or without tools. Chester McKinney, McKinney Artesian Well Co., R.D. #1, Haverhill, Mass

DRILLS FOR SALE

Keystone model 40, very good condition, 500′ capacity with 1500 lbs tools; casing reel, pantagraph tool guide, blower; power unit less than year old; ignition and starter switches at working station; engine runs off truck battery and gas tank; has brand new set belts; mounted on extra clean 1½ ton Ford truck in excellent condition with two speed rear end and heavy duty frame; will sell with tools and lines ready to put to work; located in Alabama. Box 576.

1953 model 50 Keystone like new, complete with six and eight inch tools with 500′ ¾″ drill line and 500′ sand line, mounted on Chevrolet Army truck. Pat Eatherly, Carthage, Tenn. Phone 395.

24-L Bucyrus-Erie, type EB rubber mounting, cat heads, swabbing attachment, casing strut, tool crane, LPG Buda engine, mast reinforced, with or without tools. Box 425, Mount Vernon, Illinois, phone: 344.

#45 Armstrong with new Allis-Chalmers engine, 4 cylinder, 24½ H.P. Cudahy Well and Pump, 5970 S. 32nd St., Milw., Wis.

21-W good condition, 500′ new ⅝″ cable, 4″ to 6″ tools, mounted on 1946 Reo, $2500. Phone 1741, Mason City, Iowa.

1946 model 22-W Bucyrus-Erie drill complete with cat-heads, spooling device and casing reel; Buda motor, 4 cylinder with power take off clutch; machine mounted on Army 4x4 long wheel base truck; motor and transmission just rebuilt; included with this machine is 500′ of new line and complete string of 4″ tools; priced for quick sale.

Model 240 Star, all steel machine mounted on a 1947 1½ ton Chev. truck; machine available with complete hollow rod tools or would be sold less tools.

#100 Howell, all steel, tool capacity 1000# to 500 feet, telescoping derrick, power hoist, new power unit with clutch and starter; jack shaft has new Dodge clutches just installed; machine is mounted on 1947 long wheel base Deluxe cab G.M.C., machine and motor in excellent condition; priced to sell. A. L. Cox & Co., Inc., 3010 Mishawaka Ave., South Bend, Indiana.

DRILLS FOR SALE

Bucyrus-Erie 22-W, mounted on 1947 International truck; drill equipped with casing reel, spooling device, rubber cushioned sheaves and catheads; A-1 condition, working every day; approximately 700′ each ¾″ steel drilling cable and ⅞″ sand line; new casing line; price complete: $4500. Harry H. Fox, Rt. 6, Shelbyville, Indiana; phone: Waldron 4181

All steel well drilling machine mounted on '38 Dodge truck, 38′ mast, spring shock; 500′ ⅝″ drill line, 500′ ⅞″ sand line, tools and bailer for 3 and 4″ wells; 4 cylinder Wisconsin air cooled motor; will handle 3″ to 400′, 4″ to 250′; this machine is working every day, price: $1800. Borman Plumbing and Heating Co., Phone South 1-9142, Minneapolis, Minnesota.

MISCELLANEOUS

Pin caps for number 8 bit dresser: 1½x2¼-8API; 1⅝x2⅝-7API; 2x3-7API; priced reasonable. Bolliger & Sons, Fairbury, Ill.

All sizes black and galvanized pipe, steel or iron; all sizes water well casing, plastic pipe, water well supplies and accessories, water systems. Write or call: Keystone Pipe & Supply Co., Butler, Pa., Rouseville, Pa., Columbiana, O.

Dry acid: Easy, economical method of improving flow from old and new, large and small water and irrigation wells; write for literature; good deal for drillers and contractors. Cotey Chemical Co., Box 3025 Ellwood Sta., Lubbock, Tex.

Tools: 1½x2¼ API thds., 3x14 stem, socket, drilling jars, 3 long bits and 3x14 bailer; sell part or all. Mitchell's Well Drilling, Talcott & Dee Rds., Park Ridge, Ill. Phone: Tal. 3-4470.

We buy, sell, rent everything in cable drilling and fishing tools; send list you need; water well pipe, surplus bargains, new plastic kore drilling lines; largest selections. Mac's Tri-State Tool, Box 827, Parkersburg, W. Va.

New and used pipe and casing 2″ to 8″; used well drills; write for new price list. Thomas H. Scheuren, 933 Fern Ave., Reading, Pennsylvania, phone: 41287.

MISCELLANEOUS

Deming jet pump and motor 5 H.P. 220-440 V-3 phase, this used pump overhauled by the Deming factory and carries a new pump factory warranty, price: $300 F.O.B. Borman Plumbing and Heating Co., Phone South 1-9142 Minneapolis, Minn.

HELP WANTED

Graduate engineer or geologist: At least five years experience with cable tool and rotary drilling methods and turbine pumps; to design, sell and supervise construction of water wells in Minn., N.D., S.D., Mont., Wisc., and Iowa for industry and municipalities; salary plus profit sharing; give all experience and references in detail in first letter; all replies held strictly confidential. McCarthy Well Co., 670 Eustis St., St. Paul, Minn. Nation's oldest and N.W.'s largest since 1860.

Well established dristributor of drilling equipment and supplies requires sales representative for state of Iowa; write for full details. Box 578.

Drillers: Cable tool and/or rotary for large water wells 1.90-2.20 per hour; 1½ over 40 and expenses; work in Minn. Box 574.

Help Wanted: Hard rock well driller for 6 in. water wells; prefer young family men; year round work in Virginia; must be sober and dependable. Box 579.

EQUIPMENT WANTED

Steam traction engines: Prefer undermounted Avery and 110 H.P. Case. Glen J. Brutus, Pine Village, Indiana.

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Cable tool drilling consulting services. Bit dressing and hardening a specialty.

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R. C. (Bob) Woodward
(Formerly Chief Metallurgist
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Milwaukee 11, Wisconsin

Well job···done with GOULDS

"Him job well done!"

GOULDS FIG. 3371
MULTI-STAGE
JET PUMP

Here's another NEW profit-maker!

GOULDS FIG. 3658 DEEP WELL PUMP

Developed by Goulds especially for low cost deep well jobs where the pumping level is not more than 130 ft. below the surface. Has all outstanding features of famous Goulds Jet-O-Matic—yet priced to sell in volume! See it NOW···

With your know-how and drill-skill, you tackle even the toughest deep well jobs with complete confidence. But no one has to tell you that "hitting" water is only half the story. There's still the problem of getting the water up where the customer can get at it.

That's where the Goulds Fig. 3371 Multi-Stage Jet Pump comes in! This new Goulds is built especially for those extra deep well jobs (up to 200 ft.) where higher pressures are required. It has all the features a customer could ask for—and more! Capacities to 1175 gallons per hour . . . adjustable automatic pressure control to deliver greatest capacity at all times—in short, the customer gets all the water he'll ever need . . . and then some!

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Goulds builds business for you based on solid customer satisfaction. You benefit because satisfied Goulds customers tell others about your service. It's their way of saying "Well Done."

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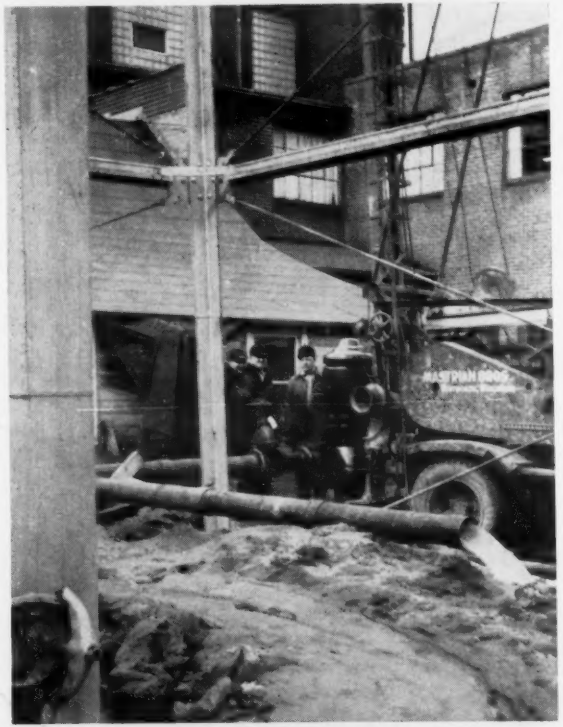
Since 1848
FOR EVERY FARM AND HOME NEED



The Mastrian Bros. Wentworth, Wis., used their 20-W to drill this 12-in. well to 212-feet and 700-gpm for the Twin Forks Coop. Dairy Assoc. of South Superior.

The Driller

The monthly magazine for water well drillers

South Milwaukee, Wisconsin

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